AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claim 1-4 (Cancelled)

Claim 5 (Currently Amended): A method comprising:

determining groups of chromaticity corrections, each group ~~to device-independent coordinates~~ corresponding to a different ~~each~~ region of color in a linear device-dependent coordinate space associated with an output device; ~~based on linear device-dependent coordinates; and~~

applying each group of ~~the~~ chromaticity corrections to ~~the~~ device-independent coordinates throughout ~~in~~ the corresponding region[[s]] of color to produce chromatically ~~obtain~~ corrected device-independent coordinates; and

displaying colors on a display based on the chromatically corrected device-independent coordinates.

Claim 6 (Currently Amended): The method of claim 5 [[1]] wherein determining groups of chromaticity corrections further comprises calculating correction factors corresponding to each region of color that are piecewise linear correction functions within the corresponding regions of color.

Claim 7 (Original): The method of claim 6 wherein each piecewise linear correction function operates on the linear device-dependent coordinates within the corresponding region of color.

Claim 8 (Original): The method of claim 7 wherein the linear device-dependent coordinates comprise linear RGB coordinates.

Claim 9 (Currently Amended): The method of claim 5 wherein determining chromaticity corrections further comprises calculating a set of correction levels, wherein the correction levels correspond to adjustments to the hue, saturation, and brightness for the corresponding regions of color. ~~the device-independent coordinates comprise linear device-dependent coordinates.~~

Claim 10 (Original): The method of claim 9 wherein the device-independent coordinates comprise coordinates in tristimulus space.

Claim 11 (Original): The method of claim 9 wherein the device-independent coordinates comprise coordinates in chromaticity space.

Claim 12 (Original): The method of claim 5 wherein the regions of color in the device-dependent coordinate space comprise red, green, blue, cyan, magenta and yellow.

Claim 13 (Withdrawn): A method, comprising:

determining a correction level based on desired changes in saturation, hue and brightness for chromatic colors of a device-dependent color space associated with a display device;

calculating a correction factor based on a linear correction function associated with the display device; and

applying the correction factor and the correction level to device-independent coordinates that define chromatic colors of a printing device to produce chromatically corrected device-independent coordinates.

Claim 14 (Withdrawn): The method of claim 13 further comprising displaying the chromatic colors using the chromatically corrected device-independent coordinates on the display device.

Claim 15 (Withdrawn): The method of claim 13 wherein calculating the correction factor further comprises calculating a piecewise linear correction function of linear device-dependent coordinates.

Claim 16 (Withdrawn): The method of claim 15 wherein the linear device-dependent coordinates are linear RGB coordinates.

Claim 17 (Withdrawn): The method of claim 15 further comprising:

calculating a group of piecewise linear correction functions, each group corresponding to a different region of color; and

applying each group of piecewise linear correction functions to the device-independent coordinates in the corresponding regions of color.

Claim 18 (Withdrawn): A method comprising:

converting device-dependent coordinates that define a color in a printing device to device-independent coordinates;

applying chromaticity corrections to the device-independent coordinates based on a linear correction function of device-dependent coordinates associated with the printing device to produce corrected device-independent coordinates; and

converting the corrected device-independent coordinates to device-dependent coordinates that define a color in a display device associated with the device-dependent display profile.

Claim 19 (Withdrawn): The method of claim 18, further comprising displaying the color using the corrected device-dependent coordinates on the display device.

Claim 20 (Withdrawn): The method of claim 19, wherein the displayed color is visually equivalent to the color on a hard copy printed by the printing device.

Claim 21 (Withdrawn): The method of claim 18, further comprising correcting the white point for the display device.

Claim 22 (Withdrawn): The method of claim 18, wherein applying chromaticity corrections to the device-independent coordinates comprises:

calculating primary correction factors corresponding to each primary region of color of the display device based on the linear correction function of device-dependent coordinates;

calculating secondary correction factors corresponding to each secondary region of color of the display device based on the linear correction function of device-dependent coordinates;

applying each primary correction factor to the device-independent coordinates in the corresponding primary regions of color; and

applying each secondary correction factor to the device-independent coordinates in the corresponding secondary regions of color of the device-independent coordinates.

Claim 23 (Withdrawn): The method of claim 22, further comprising:

determining primary correction levels corresponding to each primary region of color;

determining secondary correction levels corresponding to each secondary region of color;

applying each primary correction level to the device-independent coordinates in the corresponding primary regions of color; and

applying each secondary correction level to the device-independent coordinates in corresponding secondary regions of color.

Claim 24 (Withdrawn): The method of claim 23 wherein the primary correction levels and the secondary correction levels each comprise adjustments to the hue, saturation, and brightness for corresponding primary and secondary regions of color of the device-independent coordinates.

Claim 25 (Withdrawn): A system comprising:

a display device; and

a processor coupled to the display, wherein the processor applies selective chromaticity corrections to device-independent coordinates using at least one piecewise linear correction function.

Claim 26 (Withdrawn): The method of claim 25 wherein the piecewise linear correction function operates on linear device-dependent coordinates associated with an output device.

Claim 27 (Withdrawn): The method of claim 25 further comprising:

providing a group of piecewise linear correction functions, each group corresponding to a different region of color in a device-dependent coordinate space associated with an output device; and

applying each group of piecewise linear correction functions to the device-independent coordinates in the corresponding regions of color to perform chromaticity corrections to the device-independent coordinates.

Claim 28 (Withdrawn): A system comprising:

a printing device;

a display device; and

a processor coupled to the printing device and the display device, wherein the processor:

converts device-dependent coordinates that define a color in the printing device to device-independent coordinates;

applies chromaticity corrections to the device-independent coordinates based on a linear correction function of device-dependent coordinates associated with the printing device to produce corrected device-independent coordinates; and

converts the corrected device-independent coordinates to device-dependent coordinates that define a color in a display device associated with the device-dependent display profile.

Claim 29 (Withdrawn): A system comprising:

a display device;

a memory device; and

a processor coupled to the display device and the memory device, wherein the processor:

receives a first set of image data from the memory device defining a first visual representation of an image on a hard copy;

creates a second set of image data defining a second visual representation of the image for display on the display device based on a linear correction function; and

displays the image on the display.

Claim 30 (Withdrawn): A computer-readable medium containing instructions for causing a processor to:

receive a white point correction for a display device;

determine chromaticity corrections to device-independent coordinates corresponding to each region of color in a device-dependent coordinate space based on linear device-dependent coordinates;

apply the white point correction to the device-independent coordinates; and

apply the chromaticity corrections to the device-independent coordinates in the corresponding regions of color to obtain corrected device-independent coordinates.

Claim 31 (Currently Amended): A computer-readable medium containing instructions for causing a processor to:

determine groups of chromaticity corrections, each group corresponding to a different region of color in a linear device-dependent coordinate space associated with an output device; and

apply each group of chromaticity corrections to device-independent coordinates throughout the corresponding region of color to produce chromatically corrected device-independent coordinates.

~~convert device-dependent coordinates that define a color in a printing device to device-independent coordinates;~~

~~applying chromaticity corrections to the device-independent coordinates based on a linear correction function of device-dependent coordinates associated with the printing device to produce corrected device-independent coordinates; and~~

~~convert the corrected device-independent coordinates to device-dependent coordinates that define a color in a display device associated with the device-dependent display profile.~~

Claim 32 (Original): The computer-readable medium of claim 31 further containing instructions for causing a processor to calculate correction factors corresponding to each

region of color that are piecewise linear correction functions within the corresponding regions of color.

Claim 33 (Original): The computer-readable medium of claim 32 wherein the each piecewise linear correction function operates on the linear device-dependent coordinates within the corresponding region of color.

Claim 34 (Original): The computer-readable medium of claim 33 wherein the linear device-dependent coordinates comprise linear RGB coordinates.

Claim 35 (Currently Amended): The computer-readable medium of claim 31 further comprising instructions for causing a processor to calculate a set of correction levels, wherein the correction levels correspond to adjustments to the hue, saturation, and brightness for the corresponding regions of color.
~~wherein the device-independent coordinates comprise linear device-independent coordinates.~~

Claim 36 (Original): The computer-readable medium of claim 35 wherein the device-independent coordinates comprise coordinates in tristimulus space.

Claim 37 (Original): The computer-readable medium of claim 35 wherein the device-independent coordinates comprise coordinates in chromaticity space.

Claim 38 (Original): The computer-readable medium of claim 31 wherein the regions of color in the device-dependent coordinate space comprise red, green, blue, cyan, magenta and yellow.

Claim 39 (Withdrawn): A method comprising:

obtaining a white point correction for a display device;

obtaining a first chromatic correction for the display device by determining a chromatic correction matrix;

generating first corrected device-independent coordinates based on the white point correction and the first chromatic correction;

determining a second chromatic correction to the first set of corrected device-independent coordinates based on a linear correction function; and

applying the second chromatic correction to the first corrected device-independent coordinates to produce second corrected device-independent coordinates.